



Practitioner's Docket No. STRATA-6

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: G. Rory Paton-Ash, John Joseph Reinmann, Jr.  
Application No.: 09/975,341 Group No.: 3673  
Filed: 10/10/2001 Examiner: Michael Safavi  
For: LITE MINE ROOF SUPPORT CRIB AND METHOD

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

STATUS

2. Applicant is a small entity. A statement was already filed.

EXTENSION OF TERM

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(1)-(4)) for three months:

Fee: \$475.00

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37 C.F.R. § 1.8(a)

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37 C.F.R. § 1.10\*

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\* Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.

### FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

	(Col. 1)	(Col. 2)	(Col. 3)	SMALL ENTITY			
	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NO PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDIT. FEE		
TOTAL	25	- 25	= 0	x \$ 9.00	= \$	0.00	
INDEP.	4	- 4	= 0	x \$ 43.00	= \$	0.00	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM +				\$ 0.00	= \$	0.00	
				TOTAL ADDIT. FEE	\$	0.00	

No additional fee for claims is required.

### FEE PAYMENT

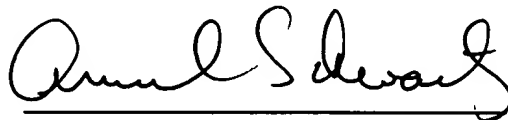
5. Attached is a check in the sum of \$475.00.

A duplicate of this paper is attached.

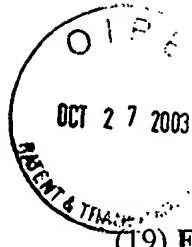
### FEE DEFICIENCY

6. An additional extension and/or fee is required, charge Account No. 19-0737.

An additional fee for claims is required, charge Account No. 19-0737.



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## Patent Specification

(12) Exclusionary Patent

(11) **DD 287 299 A5**

Granted in accordance with  
Para. 17, Section 1  
Patent Law of the German  
Democratic Republic,  
dated 10/27/1983,  
in compliance with the  
corresponding provisions  
in the Agreement Contract

5(51) E 04 G 9/02

**German Patent Office**

Published in the version submitted by the  
applicant

(21) DD E 04 G / 332 089 3

(22) 08/25/89

(44) 02/21/91

(71) See (73).

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### (54) **Formwork for soil-encased concrete structural components**

(55) Formwork; foundation; reinforced, plank-type concrete elements; various heights; notches; topmost course level.

(57) The formwork in accordance with this invention for soil-encased concrete structural components is especially used in foundations that are manufactured in narrow and complex assemblies. The invention is characterized in that reinforced concrete elements are used as plank-type formwork that has varying variations in height and comprises notches on the ends. Notch tolerances are proportional to the thickness and height of the concrete elements. The concrete elements are joined together in such a manner that the topmost course finishes in a level manner. Fig. 1

**Patent Claim:**

Formwork for soil-encased concrete structural members, characterized in that plank-like concrete elements (4) equipped with reinforcement (6) are used as formwork whose height comes in single, one-and-a-half, or multiple height increments and which comprises notches (5) that are located simultaneously on one side or both sides before the ends on the narrow side, which exhibit a slightly larger width than the width of the concrete elements (4), a depth of one quarter or one half of the height of the concrete elements (4) and to which the concrete elements (4) are joined in such a manner that a square or rectangular surface area results and the concrete elements (4) of the topmost course finish in a level manner.

Two pages of illustrations are attached.

**Application of the Invention**

The invention is utilized in the manufacture of soil-encased structural members, preferentially in foundations in narrow, complex trenches.

**Characteristics of Known Prior Art**

It is well known that so-called "lost formwork" is implemented in the creation of spacing and hollow spaces in concrete structural members but is also utilized in very narrow places for cast-in place concrete production. According to this principle, the formwork mold and the safety structure cannot be recovered; rather, they remain as consumed material at the construction site. Attempts are being made to make this consumed material useful by appropriating certain functions to it. Thus, metal formwork remains as a so-called reinforcement in the concrete according to DE-OS 3516576. The disadvantage is that the metal formwork is consumed.

In DD-WP 252630, thin concrete casings are used as "mold release-less" formwork to mold concrete elements used in building construction.

These thin concrete casings cannot be used in the execution of building material-encased structural members.

**Purpose of the Invention**

The purpose of the invention is to develop a sturdy, self-stabilizing formwork solution that decreases material losses and substantially reduces work complexity in narrow, problematic trenches.

**Description of the Invention**

The purpose of this invention is to develop formwork elements that ensure a multi-purpose function of the implemented material to include integration of this material in the concrete structural member to be produced.

In accordance with this invention, this problem is solved in that unified formwork molds made of concrete are used, which are equipped with formwork-adapted structural members using joint assembly technology. The concrete elements are designed plank-like depending on requirements and comprising reinforcement. In addition, they each comprise notches on both ends, on either one or both sides, on the narrow side.

These concrete elements are height adjustable. One can choose between single, one-and-one-half, or multiple height increments. The length depends on the implementation. Notches are located simultaneously on both sides or on one side, before either end of the concrete element, each on the narrow side. They are slightly thicker than the thickness of the concrete elements in order to ensure interlocking. The depth of the notches amounts to one quarter or one half the height of the concrete elements. The concrete elements are joined together in such a manner that the notches overlap. This results in a square or rectangular surface area. As a result of the various heights of the concrete elements and the arrangement of the notches, the topmost course results in being level.

The concrete elements, made sturdy by their own mass and connected in a self-stabilizing manner by the notches, are joined together in the trench to create a formwork casing of the concrete structural member. This enables typical safety-oriented constructions to be done away with. The concrete elements can be joined to block-, strip-, or casing-type foundations with or without cement stabilization. The surface area of the encasing concrete elements is calculated for the load-bearing cross-section, yet it assumes at least the function of concrete covering for required reinforcement. This integration of the concrete elements into the concrete structural member means use of material without loss and makes removal work unnecessary. The concrete elements are set up from the inside. Thus, the normally required workspace on the formwork's exterior side is no longer required. Therefore, less trench excavation is necessary. The residual construction trench can be filled prior to pouring the concrete for the concrete structural members. This means simplified concrete pouring and increasing work safety.

## Embodiment

The invention is further explained using an embodiment.

Fig. 1: vertical cross-section of the construction job

Fig. 2: detail "A" of the joining principle

Fig. 3: Block foundation made of concrete elements.

Concrete structural member 2 is to be produced as a block foundation on slope 1.

Sub-concrete 3 is poured and smoothed in the construction trench.

After sub-concrete 3 sets, two concrete elements 4 with notches on one side are arranged parallel to one another in such a manner that the notches point upward. In notch 5, two dual-sided, notched concrete elements 4 are arranged in such a manner that larger notches 5 mesh together. On this basic formwork, additional, two-sided, notched concrete elements 4 are set up in such a manner that the last concrete elements 4 form a level finish.

The construction trench is filled on the outside of concrete elements 4 and subsequently concrete structural member 2 is poured.

[Translator's note for pages with figures:

Figur = figure

Gedreht (in Fig. 2) = turned]